

2010

Technical efficiency performance of Vietnamese manufacturing small and medium enterprises

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TECHNICAL EFFICIENCY PERFORMANCE OF VIETNAMESE MANUFACTURING SMALL AND MEDIUM ENTERPRISES

A thesis submitted in fulfilment of the
requirements for the award of the degree

DOCTOR OF PHILOSOPHY

from

UNIVERSITY OF WOLLONGONG

by

LE CONG LUYEN VIET

**BA (*Honours*), Hanoi University
MA, National University of Singapore
MA (*1st Class Honours*), University of Auckland**

SCHOOL OF ECONOMICS

2010

To our sons
Minh Lân (Bobby) and Minh Long (Billy).

CERTIFICATION

I, LE CONG LUYEN VIET, declare that this thesis, submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the School of Economics, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

LÊ CÔNG LUYỆN VIỆT
10 October 2010

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ABBREVIATIONS

ADB	Asian Development Bank
APEC	Asia Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
ASMED	Agency for Small and Medium Enterprise Development
CIEM	Central Institute of Economic Management
COEs	Collectively Owned Enterprises
CRP	Chemical, Rubber and Plastics
DANIDA	Danish International Development Agency
DEA	Data Envelopment Analysis
EE	Electrical and Electronics Equipment
FB	Food and Beverages
FDI	Foreign Direct Investment
FIEs	Foreign Invested Enterprises
GDP	Gross Domestic Products
GSO	General Statistics Office
ILSSA	Institute of Labour Science and Social Affairs
ME	Machinery and Equipment
MP	Metal Products
MPI	Ministry of Planning and Investment
NMP	Non-Metallic Products
OECD	Organisation for Economic Co-operation and Development
PPP	Paper, Printing and Publishing
R&D	Research and Development
SFPF	Stochastic Frontier Production Function
SIDA	Swedish International Development Agency
SMEs	Small and Medium Enterprises
SOEs	State-Owned Enterprises
TE	Technical Efficiency
TFP	Total Factor Productivity
TGF	Textiles, Garments and Footwear
TNCs	Trans-national Corporations
TVEs	Township and Village Enterprises
UNCTAD	United Nations Conference on Trade and Development

VCCI	Vietnam Chamber of Commerce and Industry
VNCI	Vietnam Competitiveness Initiative
VINASMEs	Vietnam Association of SMEs
WB	World Bank
WF	Wood and Furniture
WTO	World Trade Organisation

LIST OF PAPERS AND PRESENTATIONS

Refereed Conference Papers

1. Le, Viet and Harvie, Charles (2010), “Technical Efficiency of Manufacturing SMEs in a Transitional Economy: Evidence from Vietnam” paper presented at the *International Council for Small Business (ICSB) World Conference*, Cincinnati, Ohio on 24-27 June 2010.
2. Le, Viet and Harvie, Charles (2010), “How Do Vietnamese SMEs Perform? Technical Efficiency of SMEs in the Manufacturing Sector and Its Sub-sectors” paper presented at the *Korea and the World Economy, IX Conference*, Incheon, Korea, 25-26 June 2010.
3. Le, Viet and Harvie, Charles (2009), "Estimating and Identifying Sources of Technical Efficiency for Vietnamese Manufacturing Small and Medium Enterprises," paper presented at the *6th SME in a Global Economy Conference, Global Financial Crisis: Challenges, Opportunities and Strategy for Recovery*, Beijing, 5-6 December 2009.
4. Harvie, Charles and Le, Viet (2009), “Domestic Private Sector SMEs in Vietnam: Growth, Contribution to the Economy and Issues in the Current Global Crisis,” paper presented at *Social Innovation Network (SInet) Conference*, University of Wollongong, 28-29 September 2009
5. Le, Viet (2009), “Small Firm Growth Theory and Models”, paper presented at the *22nd Small Enterprise Association of Australia and New Zealand (SEAANZ) Conference*, Wellington: Massey University, 2-3 September 2009
6. Harvie, Charles and Le, Viet (2009), “SMEs in Vietnam with a Focus on Growth”, paper presented at the *22nd Small Enterprise Association of Australia and New Zealand (SEAANZ) Conference*, Wellington: Massey University, 2-3 September 2009
7. Harvie, Charles, Le, Viet and Sanidas, Elias (2008), “Competitiveness Strategies of Small and Medium Enterprises in Transitional Economies” in M. Obayashi & N. Oguchi (Eds.), *SMEs and Industrial Development in Asian Countries*, Tokyo: Senshu University, pp. 109-130
8. Le, Viet, (2008), “Small and Medium Enterprises: A Review of Significant Issues”, paper presented at *Seoul National University and University of Wollongong Joint Workshop and Academic Development*, University of Wollongong, 12 February 2008.

Refereed Working Paper

1. Le, Viet and Harvie, Charles (2010), “Firm Performance in Vietnam: Evidence from Manufacturing Small and Medium Enterprises”, *Working Paper No. 04-10*, *School of Economics*, University of Wollongong.

Seminar Presentations

1. Le, Viet “Small and Medium Enterprises: A Review of Significant Issues” seminar presentation at the *Centre for Small Business and Regional Research*, Faculty of Commerce, University of Wollongong, Australia, 19 October 2007.
2. Le, Viet “Small and Medium Enterprises and Poverty Reduction in Vietnam” seminar presentation at the *Centre for Development Studies*, University of Auckland, New Zealand, 4 September 2009.

ABSTRACT

Most Vietnamese enterprises are small and medium enterprises (SMEs). According to the official definition in 2001 these are defined as enterprises with less than 300 employees or registered capital of 10 billion Vietnamese *dong*. Of the 155,771 formally registered enterprises in operation in 2007, SMEs accounted for 97.4 percent of total enterprises according to the employee criterion or 84.7 percent according to the registered capital criterion. If the informally registered household enterprises are included, Vietnamese SMEs accounted for over 99 percent of total business establishments in the country in 2007. A majority of SMEs are from the domestic non-state sector, which made up approximately 96 percent of total SMEs in 2007. Manufacturing SMEs accounted for almost 92 percent of total manufacturing enterprises in operation in Vietnam in 2007. They are more export-oriented compared to SMEs in other sectors such as agriculture or services. In addition, manufacturing SMEs are noted for their ability to create stable jobs.

This thesis examines the performance of Vietnamese non-state manufacturing SMEs. In particular, it analyses firm level technical efficiency of domestic non-state manufacturing SMEs in Vietnam over the 2002 – 2007 period after the introduction of the important Enterprise Law in 2000. It identifies the sources of inefficiency from the characteristics of the firms and business environment for manufacturing SMEs in aggregate and by sub-sectors. The study provides evidence-based policy recommendations to improve efficiency and competitiveness of domestic non-state manufacturing SMEs in Vietnam.

Using stochastic frontier production function, an econometric approach, the study analyses 5,204 observations of SMEs in three surveys conducted in 2002, 2005 and 2007. Under this approach, a best practice frontier is estimated from the sample and actual performance of individual firms is compared against this frontier to calculate their technical efficiency level. The cross-sectional results from the estimations reveal that manufacturing SMEs in Vietnam have relatively high average technical efficiency, ranging from 84.25 percent to 92.55 percent. An analysis is also conducted for nine sub-sectors within the manufacturing sector. It is found that the high-tech Electronics and Electrical Equipment sub-sector has the lowest technical efficiency level of around 80 percent, while the low-tech Wood and Furniture sub-sector achieves full technical efficiency. This sub-sector has simple technology which makes it easier for firms to reach the production frontier.

The study further examines the factors influencing efficiency. Findings from this study indicate that innovation through major product improvement, government assistance in credit at start-up, household and collective ownership had a positive relationship with the technical efficiency of the aggregate manufacturing sample. Meanwhile, firm size, firm age, urban location, cooperation with foreign partners, subcontracting, government assistance in premises/land at start-up, and government assistance in credit during operation adversely affected the technical efficiency of manufacturing SMEs. The effects of new product innovation and limited liability and joint-stock ownership on technical efficiency are mixed. Exporting is found to have no significant influence on the technical efficiency of Vietnamese domestic non-state manufacturing SMEs. While many of the results above confirm the findings from earlier studies, some results are against mainstream ideas and similar with the results from other transitional economies.

Policy recommendations derived from the empirical evidence are also discussed in this study. It suggests that Vietnamese domestic non-state manufacturing SMEs need to upgrade their technology and move the current production frontier upward. It appears that Vietnamese manufacturing SMEs have almost exhausted the current production frontier. This is reflected in their high level of technical efficiency. The move from static efficiency to dynamic efficiency will also improve the performance of Vietnamese SMEs in their participation in international value chains. There is a clear message to support the development of new firms, small firms, rural firms and informally registered enterprises which achieve better technical efficiency performance. Meanwhile, older firms, larger firms among manufacturing SMEs, urban firms and formally registered enterprises need to improve technology, human capital and management skills necessary to become better suited to the changing conditions of Vietnam's economy with increasing international economic integration and competition. Government assistance should be better targeted to specific sub-sectors based on their technical efficiency performance. A one-size-fits-all policy for SMEs, or even just manufacturing SMEs, may not have the intended impact. The procedures and requirements for assistance should be transparent and simplified enough to give access to firms that need it most. The findings from this study provide a clear picture about the performance of Vietnamese manufacturing SMEs with policy implications that are relevant to SMEs in other transitional economies and developing countries.

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